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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/085,797 | 02/28/2002 | Katsuhiko Iwasaki | 02135C/HG | 1786 |

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EXAMINER

ANDREWS, MELVYN J

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|--------------------------------|--|
| Office Action Summary | Application No. 10/085,797 | Applicant(s) IWASAKI ET AL. | |
| | Examiner Melvyn J. Andrews | Art Unit 1742 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2004.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,8,10-25,27 and 70-72 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1,8,10-25,27 and 70-72 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 8, 10-25, 27 and 70-72 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite because the relationships of the "non-open type vessel or pneumatic conveying unit " to the smelting reduction furnace is unclear. Claim 1 claims a "non-open type vessel" and a "pneumatic conveying unit" where are these apparatuses illustrated ?

Claim 1 is indefinite because the meaning of the expression " the percentage of post combustion of a gas generated in the smelting furnace is 20% or more "is unclear and its relationship to the other steps of claim 1 is also unclear.

Claims 1 is indefinite because in Claim 1 on lines 25 and 28 the expressions "non-open type vessel " are indefinite see MPEP 2173.05 (c) **E. "Type"**

Claim 20, is indefinite because the expression "rotary hearth type prereduction furnace" on line 3 and the expression ""rotary type furnace" on lines 6 and 7 are indefinite see MPEP 2173.05 (c) **E. "Type"** Also do these expressions refer to the same apparatus if so, this is indefinite because the use of a confusing variety of terms for the same thing should not be permitted. MPEP 608.01(o); also where are these furnaces shown in the drawings?

Claim 21 is indefinite because the expression "rotary hearth type prereluction furnace" on lines 2 and 3 is indefinite see MPEP 2173.05 (c) **E. "Type"**

Claims 8 and 22 are indefinite because the expression "a metal oxide and/or a metal hydroxide" is inconsistent with Claim 1 which claims iron oxide and iron hydroxide

Claim 8 recites the limitation "the step (A2)" in lines 4 and 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 22 recites the limitation "Fe(A)" and "Fe(B)" in lines 2 and 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 70 is indefinite because the relationships of the claimed steps based on production rate, energy consumption and energy balance in a process of manufacturing molten iron to Claim 1 are unclear because Claim 1 does not claim manufacturing molten iron.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patent to Kundrat et al (US 5,702,502) and Dry (WO 99/16911).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvyn J. Andrews whose telephone number is (571)272-1239. The examiner can normally be reached on 8:00A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on (571)272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Melvyn Andrews
MELVYN ANDREWS
PRIMARY EXAMINER

mja
September 7, 2004